# Integration and Interoperability Facility

# (IIF)

**Hilda DiMeo**

**Operations Planning**

# IIF Introduction

- The IIF is a ISO 9001: 2000 certified En Route laboratory  sponsored and funded by the En Route and Oceanic Services Organization (ATO-E) and is devoted to  exploring the issues associated with modernizing the NAS En Route infrastructure.

- The IIF is available to both Government and Industry organizations that support the emerging NAS architecture.

# IIF Mission

Dedicated to finding cost-effective solutions by investigating cutting edge technologies and methodologies that promote safety, increase capacity, and support the efficiency goals of the National Airspace System.

# IIF Description/Capabilities

- The IIF is able to simultaneously support multiple NAS projects in various stages of development.
- The IIF contains a full En Route system.
- Open to both hardware and software modifications.
- In-house Simulation Capabilities and interconnectivity to other Technical Center NAS laboratories.
- Managed and maintained by a multi-disciplinary team.
- The team provides engineering services, project support, and Laboratory User Support.
- Scheduled 7 days a week , 18 to 24 hours a day.

# IIF Description/Capabilities

- **Fully functional DSR configuration**
  - 8 full sectors, plus 2 additional Radar consoles
  - Can be partitioned into 2 sites
  - 3 M&C consoles
  - Complete Primary and Backup Networks
  - Complete Operational Support Network

- **Fully functional ERAM configuration**
  - 8 full sectors, plus 3 additional Radar consoles
  - 2 full Channels
  - 4 M&C consoles
  - 2 ATC Specialist positions
  - 2 Ghost Pilot workstations
  - 1 Display Playback workstation
  - Complete Support & Security configuration
  - Scenario Development and Simulation Processors

- **External Interfaces**
  - Host Computer System
  - EBUS
  - URET
  - Other Labs and Simulators

# IIF Description/Capabilities

- **Host and DSR labs can be configured as:**
    - A single ARTCC with redundant HOCSR processors, or
    - Two independent ARTCCs simultaneously
    - Each ARTCC has one Host processor and all required peripherals
    - DSR can be split to provide displays for each ARTCC

# IIF Description/Capabilities

- **Access to laboratories in main builiding:**
  - Radar, Interfacility, En Route, Terminal, Oceanic Labs
- **Various simulation modes**
- **Pilot Simulator**
- **Voice Communications**
  - IIF Developed En Route Training Voice Communication Tool (ETVCT)

# IIF Description/Capabilities

- **Interfacility and Radar Simulator**

  - Certified simulator for Long & Short range Radar, Interfacility, NADIN, and NORAD

  - Capable of record and playback of Radar and Interfacility messages

- **Target Generator Facility (TGF)**

  - High-fidelity interactive Radar simulator

- **ERAM Simulation Generator (SGET)**

  - ERAM internal simulator

# IIF Engineering Services

- The IIF provides engineering and laboratory services for the following En Route activities:
  - Proof-of-Concept Studies
  - Prototype Development
  - Early Engineering Assessment
  - System-level Integration and Verification
  - Experimentation/studies
  - Demonstrations
  - User Evaluations
  - Air Traffic and Airway Facilities Familiarization
  - System Development

# IIF En Route Program Support

- Engineering Tasks
  - Centralized 2$^{nd}$ Level Maintenance Tools
  - ERAM Metrics Simulation Development
  - En Route Training Simulation System (ERTSS) Voice Communication System (VCS)
  - En Route Training Voice Communication Tool (ETVCT)

- Lab Operations and Engineering Support
  - ERAM Test Support
  - EBUS Regression Testing
  - ISMT Verification & Regression (V&R) and OPSINT Testing